

PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL SEARCHING AUTHORITY

To:

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REGISTERED MAIL

INVITATION TO PAY ADDITIONAL FEES
AND, WHERE APPLICABLE, PROTEST FEE
(PCT Article 17(3)(a) and Rule 40.1 and 40.2(e))

Date of mailing
(day/month/year) 22/07/2008

Applicant's or agent's file reference
36302-010301

PAYMENT DUE
within **ONE MONTH** from
the above date of mailing

International application No.
PCT/US2008/058249

International filing date
(day/month/year) 26/03/2008

Applicant

MEDSHAPE SOLUTIONS, INC.

1. This International Searching Authority

- (i) considers that there are 2 (number of) inventions claimed in the international application covered by the claims indicated on an extra sheet:
- (ii) therefore considers that **the international application does not comply with the requirements of unity of invention** (Rules 13.1, 13.2 and 13.3) for the reasons indicated on an extra sheet:
- (iii) ☒ has carried out a partial international search (see Annex) ☐ will establish the international search report on those parts of the international application which relate to the invention first mentioned in claims Nos.:
see extra sheet
- (iv) will establish the international search report on the other parts of the international application only if, and to the extent to which, additional fees are paid.

2. Consequently, the applicant is hereby **invited to pay**, within the time limit indicated above, the amount indicated below:

EUR 1.700,00 x 1 = EUR 1.700
Fee per additional invention number of additional inventions currency/total amount of additional fees

3. The applicant is informed that, according to Rule 40.2(c), **the payment of any additional fee may be made under protest**, i.e., a reasoned statement to the effect that the international application complies with the requirement of unity of invention or that the amount of the required additional fee is excessive, where applicable, subject to the payment of a protest fee. Where the applicant pays additional fees under protest, the applicant is hereby invited, within the time limit indicated above, to pay a protest fee (Rule 40.2(e)) in the amount of EUR 750,00 (currency/amount)

Where the applicant has not, within the time limit indicated above, paid the required protest fee, the protest will be considered not to have been made and the International Searching Authority will so declare.

4. ☒ Claim(s) Nos. see extra sheet have been found to be unsearchable under Article 17(2)(b) because of defects under Article 17(2)(a) and therefore have not been included with any invention.

Name and mailing address of the International Searching Authority



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Authorized officer

Paul Faux

1. The present communication is an Annex to the invitation to pay additional fees (Form PCT/ISA/206). It shows the results of the international search established on the parts of the international application which relate to the invention first mentioned in claims Nos.:
- see 'Invitation to pay additional fees'
2. This communication is not the international search report which will be established according to Article 18 and Rule 43.
3. If the applicant does not pay any additional search fees, the information appearing in this communication will be considered as the result of the international search and will be included as such in the international search report.
4. If the applicant pays additional fees, the international search report will contain both the information appearing in this communication and the results of the international search on other parts of the international application for which such fees will have been paid.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002/124857 A1 (SCHROEPPEL EDWARD A [US]) 12 September 2002 (2002-09-12) paragraph [0035] -----	1-15
A	WO 2005/046470 A (UNIV COLORADO A BODY [US]; FINCH DUDLEY [US]; GALL KENNETH [US]; SHARP) 26 May 2005 (2005-05-26) page 24, line 20 - page 25, line 6 -----	1-15
A	KEN GALL ET AL: "Shape memory polymer nanocomposites" ACTA MATERIALIA, vol. 50, 2002, pages 5115-5126, XP002485886 page 5124, right-hand column, last paragraph - page 5125, left-hand column, line 5 -----	1-15
A	YIPING LIU ET AL: "Thermomechanics of shape memory polymer nanocomposites" MECHANICS OF MATERIALS, vol. 36, 2004, pages 929-940, XP002485887 paragraph 3.3. Effect of pre-deformation temperature -----	1-15
X	GB 1 053 651 A (RAYCHEM U. K. LIMITED) 4 January 1967 (1967-01-04) page 4, line 86 - page 5, line 22 ----- -/-	7

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Annex to Form PCT/ISA/206
COMMUNICATION RELATING TO THE RESULTS
OF THE PARTIAL INTERNATIONAL SEARCH

International Application No
PCT/US2008/058249

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	WO 2007/115208 A (UNIV COLORADO [US]; SHANDAS ROBIN [US]; YAKACKI CHRISTOPHER M [US]; GA) 11 October 2007 (2007-10-11) paragraph [0138] -----	1-15

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 206

Continuation of Box 3.

Claim(s) not searched:
16

The subject matter of claim 16 concerns a method for treatment of human body which the ISA is not required to search (cf. Art. 17(2)(a)(i) and Rule 39.1(iv) PCT)

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-15

Method for forming a polymeric shape memory element

2. claims: 17-20

Medical device comprising a shape memory element made from a polyethylene glycol dimethacrylate composition

Independent claims 1 and 17 have in common only the following features: a shape memory polymeric element which is in a deformed shape at a temperature below the glass transition temperature of the polymer. Since said features are known from document US- A-2002124857 (cf. par. [0035]), they cannot be considered as "special technical features" in the sense of Rule 13.2 PCT.

Claim 1 describes a method for obtaining a shape memory polymeric element comprising the step of deforming the element from a first shape to a second shape at the deformability peak temperature, which is below the glass transition temperature of the polymer. The problem solved by the method is to increase the strain stored by the element (cf. description on page 12, lines 13-14).

Therefore, deforming the shape memory element below glass transition temperature is considered to be the potential special technical feature for claims 1 to 15.

Claim 17 describes a medical device comprising a shape memory element comprising a specific polymeric composition, wherein the element has been stretched along an axis by a given amount and is in a given temperature range below glass transition temperature. The problem solved is to find a specific polymer suitable for manufacturing the device.

Therefore the specific polymeric composition is considered to be the potential special technical feature for claims 17 to 20.

The potential inventions of the group of claims 1 to 15 and 17 to 20 imply therefore different and non-corresponding special technical features which solve different problems, and consequently they are not so linked as to form a single general inventive concept as required by Rule 13.1 PCT.

Patent Family Annex

Information on patent family members

International Application No

PCT/US2008/058249

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2002124857	A1	12-09-2002	NONE	
WO 2005046470	A	26-05-2005	NONE	
GB 1053651	A		NONE	
WO 2007115208	A	11-10-2007	NONE	